nucleic acid which encodes the amino acid sequence of SEQ ID NO: 19 [wherein the polypeptide encoded by said nucleic acid is hydrophilic in nature and has a serine rich region, wherein said nucleic acid has the ability to complement *ced-3* or *ced-4* mutations in an *in vivo* or *in vitro* bioassay].

B1 cont'd

2. (Twice Amended) The isolated and purified *ced-3* nucleic acid [sequence] of claim 1, comprising the sequence of SEQ ID NO: 18 [comprising a nucleic acid which encodes the amino acid sequence of SEQ ID NO: 19].

B2

8. (Twice Amended) An isolated and purified *ced-3* nucleic acid sequence having a mutation in the sequence of [comprising] SEQ ID NO: 18, [wherein the polypeptide encoded by said nucleic acid is hydrophilic in nature and has a serine rich region, comprising a mutation,] wherein said mutation affects the ability of said mutated *ced-3* gene to complement *ced-3* or *ced-4* mutations in an *in vivo* or *in vitro* bioassay.

B3

17. (Twice Amended) An isolated and purified nucleic acid comprising[:

(a)] a nucleic acid which is structurally related to the *ced-3* nucleic acid sequence of SEQ ID NO:18[, wherein the polypeptide encoded by said nucleic acid is hydrophilic in nature and has a serine rich region;

(b) a nucleic acid] and which is functionally related to the *ced-3* nucleic acid of

B4

SEQ ID NO: 18, wherein said [functionally related] isolated and purified nucleic acid encodes a protein that causes cell death, wherein cell death is measured by the ability of said nucleic acid to complement *ced-3* or *ced-4* mutations in an *in vivo* or *in vitro* bioassay[; and

(c) a nucleic acid which is both structurally and functionally related to the *ced-3* nucleic acid as described in (a) and (b)].

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21. (Twice Amended) A probe or primer for identifying a gene which is structurally and functionally related to the *ced-3* nucleic acid[, which belongs to the same family as the *ced-3* nucleic acid, wherein the polypeptide encoded by said nucleic acid sequence is hydrophilic in nature and has a serine rich region, wherein said functionally related nucleic acid encodes a protein that causes cell death, wherein cell death is measured by the ability of said nucleic acid sequence to complement *ced-3* or *ced-4* mutations in an *in vivo* or *in vitro* bioassay,] said probe comprising:

(a) nucleic acid comprising all or a portion of the nucleotide sequence of SEQ ID NO: 18;

(b) RNA encoded by the nucleic acid of SEQ ID NO: 18;

(c) degenerate oligonucleotides derived from a portion of the amino acid sequence encoded by the nucleic acid of SEQ ID NO: 18;

(d) nucleic acid comprising the consensus sequence of a conserved region

between at least two other genes which belong to the *ced-3* gene family, wherein one of said two other genes is the nucleic acid of SEQ ID NO: 18;

(e) degenerate oligonucleotides derived from the consensus sequence of a conserved region between the proteins encoded by at least two other genes which belong to the *ced-3* gene family, wherein one of said two other genes is the nucleic acid of SEQ ID NO: 18; or

(f) RNA encoded by [(d)] (d).

36. (Twice Amended) An isolated and purified *ced-3* nucleic acid sequence [comprising] having a mutation in the sequence of SEQ ID NO: 18 [a mutation in the *ced-3* gene], wherein said mutation affects the ability of said mutated *ced-3* [gene] nucleic acid to complement *ced-3* or *ced-4* mutations in an *in vivo* or *in vitro* bioassay, wherein said mutation results from:

a) inactivation of the *ced-3* [gene] nucleic acid or *ced-3* gene product;

b) constitutive activation of the *ced-3* [gene] nucleic acid or *ced-3* gene product; or

c) production of a mutated *ced-3* [gene] nucleic acid or *ced-3* gene product which does not cause cell death and which antagonizes the activity of functioning cell death genes.